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SYNOPSIS

For the Ph.D. (Commerce)

"A STUDT OF DROUGHT MANAGEMENT : SPECIAL REFERENCE TO MARATHWADA REGION "

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A STUDY OF DROUGHT MANAGEMENT: SPECIAL REFERENCE TO MARATHWADA REGION

Introduction:-

Droughts are the resultant of acute water shortage due to lack of rains over extended periods of time affecting various human activities and lead to problems like widespread crop failure, non replenished ground water resources, depletion in lakes/ reservoirs, shortage of drinking water and, reduced fodder availability etc. Often a region adopts itself to a certain level of water shortage based on the long-term climatic conditions experienced by it. Any negative departure from these levels creates conditions of drought, depending on the intensity and duration of this deficit. Thus drought conditions differ from region to region. Also the impact of drought over a region varies depending on which economic activity is impaired. Because drought affects many economic and social sectors, scores of definitions have been developed by a variety of disciplines and the approaches taken to define it also reflect regional and ideological variations. In general, drought means different things to different people. To a meteorologist it is the absence of rain while to the agriculturist it is the deficiency of soil moisture in the crop root zone to support crop growth and productivity. To the hydrologist it is the lowering of water levels

in lakes, reservoirs, etc., while for the city management it may mean the shortage of drinking water availability Thus, it is unrealistic to expect a universal definition of drought for all fields of activity.

Droughts differ from other natural hazards in several important ways:

- slow-onset, creeping phenomenon that makes it difficult to determine the onset and end of the event;
- duration may range from months to years;
- no universal definition;
- no single indicator or index can identify precisely the onset and severity of the event;
- impacts are generally non-structural and difficult to quantify;
- spatial extent is usually much greater than for other natural hazards, making assessment and response actions difficult, since impacts are spread over larger geographical areas;
- because of their potentially long duration, the core area or epicenter will change over time, reinforcing the need for continuous monitoring of climate and water supply indicators
- impacts are cumulative and the effects magnify when events continue from one season or year to the next;

CAUSES OF DROUGHTS

Shortage of rainfall coupled with its erratic distribution during rainy season causes severe water deficit conditions resulting in various intensities of droughts. In India, the seasonal rainfall (monsoon rains) over the Indian sub-continent is a global phenomena associated with large-scale hemispherical movement of air masses. Therefore, identification of the major atmospheric phenomenon that influences the monsoons over Indian sub-continent is essential in drought management research. Two such relationships, viz., (i) sea-surface temperature anomaly around the Indian sub-continent in relation to atmospheric circulation, and (ii) large-scale pressure oscillation in atmosphere over southern Pacific Ocean are found to be useful in this context. The El Nino event is one such phenomenon, which has profound influence on the monsoon activity over Indian sub-continent. The Southern Oscillation Index (SOI) is one important parameter in the predictive sixteen parameters model used by IMD for long-range forecasting purposes. The study of the Indian summer monsoon over the country by India Meteorological Department showed that all the drought years are El Nino years whereas all the El Nino years are not drought years indicating thereby that various other factors also equally influence the monsoon over

the sub-continent. In this context, the winter circulation over the sub-continent, extended period of occurrence of western disturbances (late in the season), strengthening of heat low over NW India in summer and shifts in zonal cells over India are some of the important parameters that influence monsoon system over the country. Some of the researchers are of the opinion that the sea-surface temperature anomaly in the monsoon path is more important in predicting the monsoon rather than the pressure difference at far off places in the globe. Such studies have been initiated, but definite conclusions are yet to be arrived at. Therefore, successful prediction of monsoon over different parts of the country is still a problem and any progress in this direction will help in forewarning the occurrence of droughts.

Droughts & Maharashtra:-

The Indian state of Maharashtra was affected by severe drought in 2013. It is considered as the region's worst drought in 40 years. The worst-hit areas in Maharashtra are Solapur, Ahmednagar, Sangli, Pune, Satara, Beed and Nashik. Residents of Latur, Osmanabad, Nanded, Aurangabad, Jalna, Jalgaon and Dhule districts are also affected by this famine.

The current drought in Maharashtra seems to have broken all previous records, with millions of human beings and livestock suffering hunger in absence of food and fodder.

Almost one-fifth of Maharashtra is reeling under drought. Out of the total 22.56 million hectares of land under cultivation, only a small 3.96 million hectares are under irrigation, while the rest is left to the mercy of the prolonged dry period. As per the official estimate, 64 out of 355 districts recorded 50% or more deficient rainfall. However, one of the main contributing factors to the effects of the drought has been shoddy management of water resources, the lack of a proper policy on water distribution and the distribution of water to industries rather than agricultural fields.

The government has declared 15 districts, comprising of 11,801 villages, drought-affected. Some of the villages are also facing drought for the second consecutive year. The dams in Maharashtra are in a sad state, in spite of the fact that the state has the maximum number of dams in the country. ACT India Forum members are assessing the situation and will be in position to share details as they progress in this direction.

Need of the Study:-

Marathwada region is one of the most affected drought Region in Maharashtra state. Researcher will select the all Marathwada Region for Management of drought by Government of India and Govt. Of Maharashtra, NGO etc.

Objective of the Study:-

1. To study the causes of drought of Marathwada Region.
2. To analysis the uses of funds and utilization of funds.
3. Identify and review the literature of disaster management in the Marathwada Region.
4. Identify and review practice (good and bad), gaps and issues within the Marathwada Region domains: archives, libraries and museums.
5. Identify and review examples of good practice and theory outside the Marathwada Region and in other disciplines
6. Identify relevant practice in other regions and state.
7. The Role of Government for utilization of water for Marathwada Region.
8. Make recommendations for the effective development of Drought management.

Hypothesis of the study:-

The claim of Drought in Marathwada region higher ratio with compare to other region. The in-depth qualitative rather than quantitative information was used for the purpose to answer the research questions. Small contract farmers and the company staff were interviewed to gather information, details of which are given in the methodology section.

Limitations:-

The assumption regarding the willingness of the region to participate in the research process could not be fruitful. They showed much resistance and inability to participate in the interviews.

Research Methodology

The most common method of social science data collection is a survey based on a probability sample. The survey design was, and still is, quite complex to ensure equal probability of selection to ensure that the findings can be generalized to a specified universe. The survey data is used for quantitative empirical analysis and its output is often precise correlations using various statistical tools. Theory drives such data to specify policy recommendations for government or business. Not all data analysis is, however, driven by theory that is so highly formalized. Thus, the data are also used via repeat analysis to establish empirical regularities, i.e., patterns in the data repeated across time or space, which become part of social knowledge.

Although, the advantages of quantitative survey analysis are formidable, yet there are several drawbacks. The nature of information gathered by survey techniques is extractive and researchers are concerned with publishing findings based on

the data collected. At times, the quality of data is viewed as being poor since a detached expert through an unmotivated field team reflects upon the data and there is lack of bonding between the researcher and the field team. Another serious limitation of this method is when a structured questionnaire is utilized. It is assumed that the expert knows what is important and that is often not the case, and this happens when close-ended questions are used.

We have collected both secondary and primary data. The secondary data have been collected from both unpublished documents maintained district, Block and Gram panchyat offices, Nagar perished offices of the district and Published data provided by the planning commission, district gazetteers and other sources. We have collected primary data as responses from the quantity, quality, frequency and timeliness. We also maintained field diary to collect and record relevant information from the implementing agencies and during field visits.

Due to these shortcomings of quantitative research, alternative research methods, focusing on qualitative information collection, have gained currency. These techniques are more popular because of the fact that they are cheaper and more sensitive to human behavior. Some of these are pure

anthropological such participant observation and other are quasi-anthropological.

Statistical tools & Techniques:

Following are the statistical tools and techniques used for the following study:

Mean:

Mean is used for all collected primary data and also in calculate the socio-economic factors of Droughts Region i.e. Marathwada Region.

Mean can be calculated as follows

Mean = $\sum Y / N$

Where $\sum Y$ = SUM OF SERIES

N = NUMBER OF OBSERVATIONS

Median:

Is used for primary data for socio-economic factors of Drought Region influence on the present study Median can be calculated as follows

Median = size of N+1/2

Calculated on the basis of Individual Observation method

Linear Growth Rate data:

By taking time as the independent variable & index number of area as dependent variable a linear equitation of the following from fitted.

$$Y = a+bx$$

Where Y = Index numbers of area

X = Time

$$R = b/y \times 100$$

Y = Mean Level .

Chapter Plan:-

1. Introduction
2. Review of Literature & Research Methodology.
3. Profile of Marathwada Region.
4. Causes and Problems of Droughts in Marathwada Region.
5. Survey Result
6. Conclusion & Recommendation

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